



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

1 of 3A8/3762
#19
B. Wells
1/21/04

In re Application of:

Kiril A. Pandelisev

Serial No.: 09/587,318

Art Unit: 3762

Filed: June 5, 2000

Examiner: O. Khan

For: MULTIPLE SELECTABLE FIELD/CURRENT-VOLTAGE PADS HAVING
INDIVIDUALLY POWERED AND CONTROLLED CELLS

APPEAL BRIEF

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To the Commissioner of Patents and Trademarks

Sir:

REAL PARTY IN INTEREST

Phoenix Scientific Corporation is the real party in interest in the above identified case by virtue of an assignment filed June 5, 2000, and recorded on Reel/Frame 010847/0700.

RELATED APPEALS AND INTERFERENCES

No other related appeals or interferences are pending at this time.

STATUS OF CLAIMS

Claims 1-41, 84, 85 and 87-105 were finally rejected over prior art.

Claims 42-83 were withdrawn from consideration. Claim 86 was cancelled without prejudice.

A copy of appealed claims is appended hereto in the Appendix.

STATUS OF AMENDMENTS

Amendments proposed after the final office action were not entered by the Examiner pursuant to the Advisory Action dated June 16, 2003.

SUMMARY OF THE INVENTION

The present invention is a flexible and fully portable unit 1 employing individually powered and controlled cells 3 that produce a radio frequency (RF), electromagnetic radiation (EM), a magnetic field (B) or a current-voltage signal for healing purposes, as shown in Figures 1 - 6. The cells 3 are contained in the unit 1 by a pad housing 5. The cells 3 may have self-contained controls, as shown in Figure 1, or be remotely controlled, as shown in Figures 2, 3 and 5. The unit 1 may contain only one type of cell 3 or it may be made up of a combination of radiation and signal producing cells. (Specification page 9, lines 13-22).

The type of radiation or current-voltage application used, the strength of the radiation or current-voltage, the pattern of activated cells, the frequency of the signal, the pulse characteristics and its width, the repetition rate, the strength of the signal, the use of a continuous or a pulsating mode, the signal density per unit area, as well as the composition of the cells 3 comprising the pad 1 are determined by the wound being treated, the size and shape of the wound, the depth of the wound, and the type of tissue being treated. The tissue may be soft tissue, a bone fracture, cancerous tissue, a nerve path, or any other body type tissue. (Specification page 9, line 23 to page 10, line 8).

In the case of RF/EM/B applications, certain patterns of the applied field, the pattern of activated cells, the frequency of the signal, the pulse characteristics and the pulse width, the repetition rate, the strength of the signal, the use of a continuous or a pulsating mode, and the signal density per unit area bring very improved healing results over the current techniques. (Specification page 10, lines 9-15).

In the case of current-voltage applications, the choice of applying various signals at selected areas at the periphery of the wound, or across the wound, or any combinations thereof, speeds up the healing process and also provides for applications that are not possible with present techniques. (Specification page 10, lines 16-20).

The combination of a RF/EM/B field and a current-voltage application furthers the non-invasive techniques for healing of various parts of the body. (Specification page 10, lines 21-23).

The unit 1 is portable, allowing a user to obtain the benefits of the unit at any time or location. The unit 1 is also extremely flexible in the available methods of providing power to the individual cells. Each cell 3 may be supplied power individually by already incorporated power and signal capabilities, as shown in Figure 1. Each cell 3 may be supplied power remotely, by either enabling the desired cells via connections to a control package 7 that is located at one or both ends of the pad or on a side away from the side facing the user (Figures 2 and 3, respectively), by a flexible module surrounding the pad 9 (Figure 4), or by a separate control unit (Figure 5) that is connected to the unit by a connector 11 that is powered by standard batteries, rechargeable batteries 10 (Figure 4), or simply by connecting the control unit to a power outlet. The batteries may be provided between the pad and the power outlet having connections, such as cable or the like, between the batteries, power outlet and the pad. Each cell 3 may be turned ON

or OFF by a switch on the cell or by a separate control unit. (Specification page 10, line 24 to page 11, line 15)

The pad 1 is thin, flexible and portable. It may be used by applying the pad over the patient with the cell surface facing down, under the patient with the cell surface facing up, or in any other desired position. The pad may be positioned proximal the body and may be spaced from the body or in contact with the body or be selectively in contact with or spaced from the body depending on the position of individual cells on the pad. For example, the cells may have variable positions on the pad with some of the cells being in contact with the body and some spaced from the body when the pad is in use. (Specification page 11, lines 16-25).

Figure 6 shows an example of how the pad 1 is placed over a wound 13 that is to be treated. Figures 7, 8 and 9 show the varying intensity of the individual cells in relation to the cell's proximity to the wound 13 that is to be treated. (Specification page 11, line 26 to page 12, line 3).

Figures 10 and 11 show an individual cell 3 that contains controls within the cell itself. Figure 10 shows a cell 3 that uses electromagnetic radiation, radio frequencies or a magnetic field to treat the wound. A battery 15 and signal and power control circuits 17 are both contained within the individual cell 3. Signals received by the signal and power controls 19 activate the battery 15 and the signal and power control circuits 17 that cause the field generator coil 18 to create a field. Signal and power cables 25 connect the signal and power controls 19, the battery 15, the signal and power control circuits 17, and the field generator coil 18 together. Shielding 21 around the cell 3 limits exposure to the generated field to only the wound that is to be treated.

Insulation 23 houses the coil 18 and prevents direct contact with the coil by the patient.

(Specification page 12, lines 4-17).

Figure 11 shows a cell 3 that uses current-voltage signals to treat the wound. A battery 15 and signal and power control circuits 17 are both contained within the individual cell 3, for internal control. However, the circuits may be outside the cell for generating and controlling current-voltage signals externally from a signal and control instrument or from a combined signal and control module. Some cells may have internal and some external generation and control as desired. The current-voltage cells may have one or more contacts with the body. (Specification page 12, lines 18-26).

Signals received by the signal and power controls 19 activate the battery 15 and the signal and power control circuits 17 that cause the electrodes 27 to create an electrical signal. The electrodes 27 may be placed directly on the patient. Signal and power cables 25 connect the signal and power controls 17, the battery 15, the signal and power circuits 17, and the electrodes 27 together. (Specification page 13, lines 1-7).

Figures 12 and 13 show an individual cell 3 that is remote controlled. Figure 12 shows a cell 3 that uses electromagnetic radiation, radio frequencies or a magnetic field to treat the wound. Signal and power cables 25 connect the power supply to the individual cells 3. An on/off switch 31 located at each cell 3 supplies power to the field generator coil 18 for creating a field to treat the wound. The on/off switch 31 is used to select which individual cells 3 of the pad are to be used for treating the wound. Shielding 21 around the cell 3 limits exposure to the generated field to only the wound that is to be treated. Insulation 23 houses the coil 18 and prevents direct contact with the coil by the patient. (Specification page 13, lines 8-19).

Figure 13 shows a cell 3 that uses current-voltage signals to treat the wound. Signal and power cables 25 connect the power supply to the individual cells 3. An on/off switch 31 located at each cell 3 supplies power to the electrodes 27 for creating electrical signals to treat the wound. The on/off switch 31 is used to select which individual cells 3 of the pad are to be used for treating the wound. The electrodes 27 are placed directly on the patient. (Specification page 13, line 20 to page 14, line 1).

The flexible nature of the pad 1 allows for shaping of the pad and applying it around a leg, arm or any other part of the body 42 that needs treatment, as shown in Figure 14. The number of the activated cells as well as the shape of the area that is subjected to the RF/EM/B field or the current-voltage signals, or a combination thereof, and the signal strength, the frequency and other signal characteristics greatly depends on the shape and size of the wounded area to be treated. As shown in Figure 15, the pad 1 may comprise one unitary cell 3, or the pad 1 may have multiple cells 3, as shown in Figure 16. As shown in Figures 16, 17 and 18, the activated area may be cross 33, vertically 37 or horizontally 39 shaped. The cells may have varied shapes such as, but not limited to, quadrilateral, triangular, polygonal, orthogonal, circular or any other shape and combinations thereof. The size of individual cells are varied and are not limited to a particular size with combinations of sizes possible and within the scope of this invention. (Specification page 14, lines 2-18).

Sensors 41 may be incorporated into the pad 1. The sensors may be used for measuring the dose of the treatment, the temperature of the treated area, blood pressure, or any other relevant parameters, as shown in Figure 19. (Specification page 14, lines 19-22).

The cost of maintenance of the pad and the effectiveness of the pad in treating patients is drastically lowered by simply repairing the defective pads. (Specification page 14, lines 23-25).

ISSUES

Whether claims 1-7, 84, 87, 89, 93-95, 97 and 99-104 are patentable under 35 U.S.C. 102(b) over Browner (3,025,857)?

Whether claims 1-8, 16, 26-35, 39 and 84-105 are patentable under 35 U.S.C. 103(a) over Russek (4,381,012) in view of Alon (4,690,146)?

Whether claims 1-4, 7-15, 26-39 and 84-104 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146)?

Whether claims 5 and 6 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146), and further in view of Russek (4,381,012)?

Whether claims 16-25 and 105 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146), and further in view of Russek (4,381,012)?

Whether claims 40 and 41 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146), and further in view of McLeod (5,518,496)?

GROUPING OF CLAIMS

The claims do not stand or fall together.

ARGUMENTS

The present claims are patentable under 35 U.S.C. 102.

Claims 1-7, 84, 87, 89, 93-95, 97 and 99-104 are patentable under 35 U.S.C. 102(b) over Browner.

For an invention to be anticipated, it must be demonstrated that each and every element of the claimed invention is present in the "four corners" of a single prior art, either expressly described therein or under the principle of inherency. Lewmar Marine Inc. v Barient Inc., 3 USPQ2d 1766, 1767-1768 (CAFC, 1987). The absence from prior art reference any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible, Inc., 230 USPQ 81, 84 (Fed. Cir. 1986).

Claim 1 is patentable over Browner.

The present invention generally relates to a base on a body and cells on the base. Moreover, Browner is not a healing apparatus as claimed herein. Browner does not show controls connected to the cells separately controlling application of power to each of the cells individually (see Figures 7, 8 and 9).

Contrary to Browner, the present invention defines a healing system with controls connected separately to the cells for controlling power to each individual cell. Claim 1 and its dependent claims point out a base on a body and wound treatment cells on the base. Wound treatment is found in claims 38 and 41, for example. Moreover, Browner is not a healing apparatus as claimed herein.

The prior art reference must disclose every feature of the claimed invention, either explicitly or inherently. Hazani v. U.S. Intern. Trade Comm., 44 USPQ2D 1358 (Fed. Cir. 1997). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

Claim 1 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims. Since the cited reference does not disclose all the elements of the present invention, the reference cannot anticipate the present invention. Thus, lacking an element of the claims, the reference cannot anticipate the invention. Carmen Indus., Inc. v. Wahl, 220 USPQ 481, 485 (Fed. Cir. 1983).

Claim 2 is patentable over Browner.

Claim 2 adds to claim 1 that the base is thin, flexible and portable.

The prior art reference must disclose every feature of the claimed invention, either explicitly or inherently. Hazani v. U.S. Intern. Trade Comm., 44 USPQ2d 1358 (Fed. Cir. 1997). "Inherency, however may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

Claim 2 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 3 is patentable over Browner.

Claim 3 adds to claim 1 that the cells generate energy selected from the group of energies consisting of radio frequencies, electro-magnetic radiations, magnetic fields, current-voltage signals, and combinations thereof.

Claim 3 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 4 is patentable over Browner.

Claim 4 adds to claim 1 that the power supply is a power source selected from the group consisting of batteries, power outlet, converter and oscillator, transformer, and combinations thereof.

Claim 4 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 5 is patentable over Browner.

"To establish inherency, the extrinsic evidence 'must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" In re Robertson, 48 USPQ2d 1949, 1951 (Fed. Cir. 1999) quoting from Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Id. 20 USPQ2d at 1749.

Claim 5 adds to claim 4 that the power source is mounted on the base.

Claim 5 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 6 is patentable over Browner.

Claim 6 adds to claim 4 that the power source is connected to the base.

Claim 6 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 7 is patentable over Browner.

Claim 7 adds to claim 1 self-contained controls in each cell.

Claim 7 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 84 is patentable over Browner.

Claim 84 adds to claim 1 and points out that the cells concurrently or sequentially generate radio frequencies, electromagnetic radiations, magnetic fields and current-voltage signals and combinations thereof, not found in the references.

Claim 84 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 87 is patentable over Browner.

Claim 87 points out the flexible base, the plural individually controlled energy applicator cells, and the controls for controlling the energy applied to the wounded tissues. None of those features is found in the references.

Browner is not a healing apparatus as claimed herein. Browner does not show controls connected to the cells separately controlling application of power to each of the cells individually (see Figures 7, 8 and 9).

Contrary to Browner, the present invention defines a healing system with controls connected separately to the cells for controlling power to each individual cell.

Claim 87 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 89 is patentable over Browner.

Claim 88 adds to claim 87 plural energy generators, and claim 89 adds the controlled field intensities, not found in the references.

Claim 89 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 93 is patentable over Browner.

Claim 93 adds to claim 87 and points out the independent control of pulse width in each applicator cell.

Claim 93 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 94 is patentable over Browner.

Claim 94 adds to claim 87 and points out the independent control of pulse shape in each applicator cell.

Claim 94 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 95 is patentable over Browner.

Claim 95 adds to claim 87 and points out the independent control of pulse width and shape in each applicator cell.

Claim 95 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 97 is patentable over Browner.

Claim 97 adds to claim 87 and points out the independent control of amplitude modulation in each applicator cell.

Claim 97 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 99 is patentable over Browner.

Claim 99 adds to claim 87 and points out the independent control of direct application of current in each applicator cell.

Claim 99 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 100 is patentable over Browner.

Claim 100 adds to claim 87 and points out the independent control of direct application of voltage in each applicator cell.

Claim 100 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 101 is patentable over Browner.

Claim 101 adds to claim 87 and points out the independent control of direct application of current and voltage in each applicator cell.

Claim 101 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 102 is patentable over Browner.

Claim 102 describes an apparatus for applying in proximity to injured body tissues and healing the injured body tissues, comprising a carrier for mounting on the body in proximity to the injured tissues to be healed, energy application cells mounted on the carrier and arranged in arrays, a power source connected to the cells for powering the cells, and controls connected between the power source and the cells for controlling the providing of power from the power source to the cells for application of energy from the cells.

Browner is not a healing apparatus as claimed herein. Browner does not show controls connected to the cells separately controlling application of power to each of the cells individually (see Figures 7, 8 and 9).

Contrary to Browner, the present invention defines a healing system with controls connected separately to the cells for controlling power to each individual cell.

Claim 102 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 103 is patentable over Browner.

Claim 103 adds to claim 102 that the cells are arranged in several arrays, and wherein the controls provide power concurrently or individually to the cells in the arrays.

Claim 103 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

Claim 104 is patentable over Browner.

Claim 104 adds to claim 102 that the controls are connected severally to the cells for the providing of power to the cells concurrently or individually.

Claim 104 is patentable over Browner.

Lacking the crucial claimed elements, the reference cannot anticipate the present claims.

The present claims are patentable under 35 U.S.C. 103.

In considering the patentability of the present invention, it is requested that the Board consider the invention as a whole, consider the scope and content of the prior art as a whole, consider the differences between the claims at issue and the prior art, and consider the level of ordinary skill in the art to which the invention pertains at the time the invention was made.

Graham v. John Deere Co., 148 USPQ 459, 467 (1966).

THE INVENTION AS A WHOLE

The invention considered as a whole is best described by the appended claims.

PRIOR ART AS A WHOLE

The prior art to which the invention pertains is typified by the references of record.

DIFFERENCES BETWEEN THE INVENTION AND THE PRIOR ART

Each of the present claims defines unique features and each is individually patentable over the prior art.

The test in reviewing rejections under 35 U.S.C. 103 in which the examiner has relied on teachings of several references, is whether references, viewed individually and collectively, would have suggested claimed invention to a person possessing ordinary skill in the art, and citing references which merely indicate that isolated elements and/or features recited in the

claims are known is not a sufficient basis for concluding that combination of the claimed elements would have been obvious. Ex parte Hiyamizu, 10 USPQ2d 1393-1395 (Board of Patent Appeals and Inter., 1988); In re Kaslow, 217 USPQ 1089 (Fed. Cir. 1983); In re Deminski, 230 USPQ 313 (Fed. Cir. 1986).

Claims 1-8, 16, 26-35, 39 and 84-105 are patentable under 35 U.S.C. 103(a) over Russek (4,381,012) in view of Alon (4,690,146).

The present claims particularly point out new and unobvious features of the invention which are not found in any reference and which would not have been obvious from the references.

When [the Board] relies on "what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record. ... The board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies." In re Lee, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002).

Nothing in each of the references teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 1 is patentable over Russek in view of Alon.

The Examiner relies on Russek as disclosing an apparatus having electrodes touching the body on a belt for muscle tensioning.

Alon has been relied on as disclosing a group of cells contacting a body for muscular control.

Neither has a base on the body and a plurality of cells on a single base. Neither reference is a healing apparatus. Neither have remote controls (claim 16). Neither has orthogonal arrangement of cells on a body-contacting base (claim 26). Neither has a base encircling a limb (claim 39).

The present claims define a base for placing on a body, a plurality of cells arranged on the base, a power supply individually communicating independently with each of the cells and controls connected to the cells separately controlling application of power to each of the cells individually.

Russek has been relied on as disclosing electrodes for muscle stimulation. However, as pointed out, Russek cannot, does not, and will not motivate one of ordinary skill in the art, to have the Alon group of cells because the two references teach away from a combination of the respective devices. Lacking such a teaching the references do not, cannot and will not render any claimed feature obvious.

"The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification". In re Fritch, 23 USPQ2d 1783, 1784 (CAFC, August 1992) citing In re Gordon, 221 USPQ, 1127. In In re Gordon, the court found a proposed modification inappropriate for an obviousness inquiry when the modification rendered the prior art reference inoperable for its intended purpose.

To be anticipating, a prior art reference must disclose "each and every limitation of the claimed invention[,]... must be enabling[,] and must describe...[the] claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention." In re Paulsen, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

"That [the prior art] might incorporate elements which could be used in appellants' system does not render appellants' claims obvious when there is no suggestion of using these elements in substantially the same manner as appellants use them." In re Donovan, 184 USPQ 414, 421 (CCPA, 1975).

None of the cited references provide for controlled amplitude and frequency distribution or for combined signal delivery and treatment. They always use one or another approach that does not provide basis for optimization of the signal delivery and optimization of the treatment, combination of signal delivery and signal distribution over the wound area. For instance, bedsores vary in size, shape and depth in healthy tissue, depending on the bedsore "age", the age of the patient, and the place on the body that the wound exists. Different wounds require different approaches, field strength distribution over the wound area and/or frequency modulation. Some might require high frequency EM radiation (~27 MHz is a very good frequency range), some will require combination between EM and a current stimulation, some might require simultaneous EM, current flow and magnetic treatment within a desired type, signal strength and frequency.

No patent referenced here or during our Patent Office search describes energy distribution over the wound area.

No patent referenced here or during our search covers multiple field treatment of a single wound, nor provides for flexible amplitude, frequency and current density distribution during a single wound treatment.

Therefore, claim 1 is patentable over Russek in view of Alon.

Claim 2 is patentable over Russek in view of Alon.

Claim 2 adds to claim 1 that the base is thin, flexible and portable. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 3 is patentable over Russek in view of Alon.

Claim 3 adds to claim 1 that the cells generate energy selected from the group of energies consisting of radio frequencies, electro-magnetic radiations, magnetic fields, current-voltage signals, and combinations thereof. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 4 is patentable over Russek in view of Alon.

Claim 4 adds to claim 1 that the power supply is a power source selected from the group consisting of batteries, power outlet, converter and oscillator, transformer, and combinations thereof. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 5 is patentable over Russek in view of Alon.

Claim 5 adds to claim 4 that the power source is mounted on the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 6 is patentable over Russek in view of Alon.

Claim 6 adds to claim 4 that the power source is connected to the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 7 is patentable over Russek in view of Alon.

Claim 7 adds to claim 1 self-contained controls in each cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 8 is patentable over Russek in view of Alon.

Claim 8 adds to claim 1 batteries connected to the self-contained controls. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 16 is patentable over Russek in view of Alon.

Claim 16 adds to claim 1 remote controls for controlling the cells remotely. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 26 is patentable over Russek in view of Alon.

Claim 26 adds to claim 1 that the cells have an orthogonal arrangement on the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 27 is patentable over Russek in view of Alon.

Claim 27 adds to claim 1 control conduits mounted on the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 28 is patentable over Russek in view of Alon.

Claim 28 adds to claim 27 that the control conduits are connected to a power and signal generator and control. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 29 is patentable over Russek in view of Alon.

Claim 29 adds to claim 27 that the power and signal generator and control are portable. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 30 is patentable over Russek in view of Alon.

Claim 30 adds to claim 27 that the power and signal generator and control are portable. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 31 is patentable over Russek in view of Alon.

Claim 31 adds to claim 27 that the control conduits are signal control conduits. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 32 is patentable over Russek in view of Alon.

Claim 32 adds to claim ... Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 33 is patentable over Russek in view of Alon.

Claim 33 adds to claim 1 a control panel mounted on one end of the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 34 is patentable over Russek in view of Alon.

Claim 34 adds to claim 1 control panels mounted on opposite ends of the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 35 is patentable over Russek in view of Alon.

Claim 35 adds to claim 1 battery power supplies mounted on opposite ends of the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 39 is patentable over Russek in view of Alon.

Claim 39 adds to claim 1 a signal generator and control mounted on one end of the base. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 84 is patentable over Russek in view of Alon.

Claim 84 adds to claim 1 that the cells concurrently or sequentially generate radio frequencies, electromagnetic radiations, magnetic fields, current-voltage signals, and combinations thereof. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 85 is patentable over Russek in view of Alon.

Claim 85 provides A method for speeding healing process of wounded soft tissues, bone tissues, cancerous tissues, nerve pathway tissues and other body tissues, comprising applying a portable base to a body, the base having a plurality of cells applied with the cells near or on the wounded tissues, generating energy, the energy further comprising electromagnetic radiations, radio frequencies, magnetic fields, current-voltage signals or combinations thereof with field generators powering and controlling each cell individually via self-contained or remote controls, and varying type, frequency, pulse characteristics, repetition rate or signal density of the generated energy according to size and type of the wounded tissues being healed and according

to the proximity of each cell to the wounded tissues. Russek does not teach this and there is no motivation to combine Russek and Alon.

Russek discloses an apparatus having electrodes touching the body on a belt for muscle tensioning.

Alon disclosing a group of cells contacting a body for muscular control.

Neither has a base on the body and a plurality of cells on a single base.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 87 is patentable over Russek in view of Alon.

Claim 87 provides an apparatus for treating wounded tissues, comprising a rigid or flexible base, plural individually controlled energy applicator cells mounts on the base, an energy generator connected to the cells, and controls connected between the energy generator and the cells for controlling energy applied to the wounded tissues by the energy applicator cells for healing the wounded tissues. Russek does not teach this and there is no motivation to combine Russek and Alon.

Russek discloses an apparatus having electrodes touching the body on a belt for muscle tensioning.

Alon disclosing a group of cells contacting a body for muscular control.

Neither has a base on the body and a plurality of cells on a single base.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 88 is patentable over Russek in view of Alon.

Claim 88 adds to claim 87 that the energy generator comprises plural energy generators connected to the cells. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 89 is patentable over Russek in view of Alon.

Claim 89 adds to claim 87 that the energy generator supplies currents to the cells for applying controlled field intensities from the energy applicator cells. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 90 is patentable over Russek in view of Alon.

Claim 90 adds to claim 87 that the controls independently control strength of field from each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 91 is patentable over Russek in view of Alon.

Claim 91 adds to claim 87 that the controls independently control frequency of each application cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 92 is patentable over Russek in view of Alon.

Claim 92 adds to claim 87 that the controls independently control strength of field and frequency of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 93 is patentable over Russek in view of Alon.

Claim 93 adds to claim 87 that the controls independently control pulse width output of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 94 is patentable over Russek in view of Alon.

Claim 94 adds to claim 87 that the controls independently control pulse shape of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 95 is patentable over Russek in view of Alon.

Claim 95 adds to claim 87 that the controls independently control pulse shape and pulse width of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 96 is patentable over Russek in view of Alon.

Claim 96 adds to claim 87 that the controls independently control frequency modulation of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 97 is patentable over Russek in view of Alon.

Claim 97 adds to claim 87 that the controls independently control amplitude modulation of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 98 is patentable over Russek in view of Alon.

Claim 98 adds to claim 87 that the controls independently control amplitude and frequency modulation of each applicator cell. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 99 is patentable over Russek in view of Alon.

Claim 99 adds to claim 87 that the controls independently control direct application of current by the applicator cells to the wounded tissues. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 100 is patentable over Russek in view of Alon.

Claim 100 adds to claim 87 that the controls independently control direct application of voltage by the applicator cells to the wounded tissues. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 101 is patentable over Russek in view of Alon.

Claim 101 adds to claim 87 that the controls independently control direct application of current and voltage by the applicator cells to the wounded tissues. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 102 is patentable over Russek in view of Alon.

Claim 102 provides an apparatus for applying in proximity to injured body tissues and healing the injured body tissues, comprising a carrier for mounting on the body in proximity to the injured tissues to be healed, energy application cells mounted on the carrier and arranged in arrays, a power source connected to the cells for powering the cells, and controls connected between the power source and the cells for controlling the providing of power from the power

source to the cells for application of energy from the cells. Russek does not teach this and there is no motivation to combine Russek and Alon.

Russek discloses an apparatus having electrodes touching the body on a belt for muscle tensioning.

Alon disclosing a group of cells contacting a body for muscular control.

Neither has a base on the body and a plurality of cells on a single base.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 103 is patentable over Russek in view of Alon.

Claim 103 adds to claim 102 that the cells are arranged in several arrays, and wherein the controls provide power concurrently or individually to the cells in the arrays. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 104 is patentable over Russek in view of Alon.

Claim 104 adds to claim 102 that the controls are connected severally to the cells for the providing of power to the cells concurrently or individually. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 105 is patentable over Russek in view of Alon.

Claim 105 adds to claim 102 a remote control for operating the controls for the controlling of the providing of power to the cells. Russek does not teach this and there is no motivation to combine Russek and Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claims 1-4, 7-15, 26-39 and 84-104 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146).

Claim 1 is patentable over Ostrow in view of Alon.

Ostrow and Alon would not have made the invention obvious. Ostrow uses electromagnets in stimulator pads for neuromuscular stimulation. Neither Ostrow nor Alon suggests healing. Neither suggests a body-contacting base with plural cells.

The combination of Ostrow, Alon and Russek would not have made the invention as claimed obvious.

As pointed out earlier, Alon do not describe, teach or suggest the claimed features. Alon has separate pads for electro neuromuscular stimulation. Ostrow uses electromagnets in pads for neuromuscular stimulation. Therefore, any further combination will also lead away from the present claims.

There is no showing as to how the Alon separate pads can be adapted into the Ostrow neuromuscular stimulation pads.

The Examiner is modifying the original Ostrow device using the present invention as a guide merely to negate the claimed features. However, such hindsight reconstruction cannot be a basis for obviousness holdings.

"It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 23 USPQ2d 1783, 1784 (CAFC, August 1992), quoting from In re Gorman, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). "This court has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." Id. quoting from In re Fine, 5 USPQ2d 1600 (CAFC, 1988).

None of the cited references provide for controlled amplitude and frequency distribution or for combined signal delivery and treatment. They always use one or another approach that does not provide basis for optimization of the signal delivery and optimization of the treatment, combination of signal delivery and signal distribution over the wound area. For instance, bedsores vary in size, shape and depth in healthy tissue, depending on the bed sore "age", the age of the patient, and the place on the body that the wound exists. Different wounds require different approaches, field strength distribution over the wound area and/or frequency modulation. Some might require high frequency EM radiation (~27 MHz is a very good frequency range), some will require combination between EM and a current stimulation, some might require simultaneous EM, current flow and magnetic treatment within a desired type, signal strength and frequency.

No patent referenced here or during our Patent Office search describes energy distribution over the wound area.

No patent referenced here or during our search covers multiple field treatment of a single wound, nor provides for flexible amplitude, frequency and current density distribution during a single wound treatment.

Claim 1 is patentable over Ostrow in view of Alon.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 2 is patentable over Ostrow in view of Alon.

Claim 2 adds to claim 1 that the base is thin, flexible and portable. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 3 is patentable over Ostrow in view of Alon.

Claim 3 adds to claim 1 that the cells generate energy selected from the group of energies consisting of radio frequencies, electro-magnetic radiations, magnetic fields, current-voltage signals, and combinations thereof. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 4 is patentable over Ostrow in view of Alon.

Claim 4 adds to claim 1 that the power supply is a power source selected from the group consisting of batteries, power outlet, converter and oscillator, transformer, and combinations thereof. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 7 is patentable over Ostrow in view of Alon.

Claim 7 adds to claim 1 self-contained controls in each cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 8 is patentable over Ostrow in view of Alon.

Claim 8 adds to claim 1 batteries connected to the self-contained controls. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 9 is patentable over Ostrow in view of Alon.

Claim 9 adds to claim 8 that the self-contained controls comprise control circuits connected to the batteries, cables connected to the control circuits, a field generator coil for generating energy connected to cables, a shielding separating the control circuits from the coil for shielding the control and any adjacent cells from interference, and a coil enclosure and patient insulation interposed between a patient and the coil. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 10 is patentable over Ostrow in view of Alon.

Claim 10 adds to claim 9 that the control circuits are power control circuits. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 11 is patentable over Ostrow in view of Alon.

Claim 11 adds to claim 9 that the control circuits are signal control circuits. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 12 is patentable over Ostrow in view of Alon.

Claim 12 adds to claim 9 that the cables are signal cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 13 is patentable over Ostrow in view of Alon.

Claim 13 adds to claim 9 that the cables are power cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 14 is patentable over Ostrow in view of Alon.

Claim 14 adds to claim 9 that the energy is selected from a group of energies consisting of electro-magnetic radiations, radio frequencies, magnetic fields, and combinations thereof.

Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 15 is patentable over Ostrow in view of Alon.

Claim 15 adds to claim 9 that the battery, the control, the shielding, the coil and the cables are surrounded by a housing. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 26 is patentable over Ostrow in view of Alon.

Claim 26 adds to claim 1 that the cells have an orthogonal arrangement on the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 27 is patentable over Ostrow in view of Alon.

Claim 27 adds to claim 1 control conduits mounted on the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 28 is patentable over Ostrow in view of Alon.

Claim 28 adds to claim 27 that the control conduits are connected to a power and signal generator and control. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 29 is patentable over Ostrow in view of Alon.

Claim 29 adds to claim 27 that the power and signal generator and control are portable. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 30 is patentable over Ostrow in view of Alon.

Claim 30 adds to claim 27 that the control conduits are power control conduits. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 31 is patentable over Ostrow in view of Alon.

Claim 31 adds to claim 27 that the power and signal generator and control are portable. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 32 is patentable over Ostrow in view of Alon.

Claim 32 adds to claim 27 that the control conduits are signal control conduits. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 33 is patentable over Ostrow in view of Alon.

Claim 33 adds to claim 1 a control panel mounted on one end of the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 34 is patentable over Ostrow in view of Alon.

Claim 34 adds to claim 1 a battery power supply mounted on one end of the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 35 is patentable over Ostrow in view of Alon.

Claim 35 adds to claim 1 battery power supplies mounted on opposite ends of the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 36 is patentable over Ostrow in view of Alon.

Claim 36 adds to claim 1 a signal generator and control mounted on one end of the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 37 is patentable over Ostrow in view of Alon.

Claim 37 adds to claim 1 that a signal generator and control is mounted transverse from another signal generator and control on an opposite end of the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 38 is patentable over Ostrow in view of Alon.

Claim 38 adds to claim 2 that the frequency and field strength of the energies are variable with increasing frequencies for indicating proximity to the wounds to be treated. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 39 is patentable over Ostrow in view of Alon.

Claim 39 adds to claim 1 that the base encircles a limb on the body. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 84 is patentable over Ostrow in view of Alon.

Claim 84 adds to claim 1 that the cells concurrently or sequentially generate radio frequencies, electromagnetic radiations, magnetic fields, current-voltage signals, and combinations thereof. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 85 is patentable over Ostrow in view of Alon.

Claim 85 provides a method for speeding healing process of wounded soft tissues, bone tissues, cancerous tissues, nerve pathway tissues and other body tissues, comprising applying a portable base to a body, the base having a plurality of cells applied with the cells near or on the wounded tissues, generating energy, the energy further comprising electromagnetic radiations,

radio frequencies, magnetic fields, current-voltage signals or combinations thereof with field generators powering and controlling each cell individually via self-contained or remote controls, and varying type, frequency, pulse characteristics, repetition rate or signal density of the generated energy according to size and type of the wounded tissues being healed and according to the proximity of each cell to the wounded tissues. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Ostrow and Alon would not have made the invention obvious. Ostrow uses electromagnets in stimulator pads for neuromuscular stimulation. Neither Ostrow nor Alon suggests healing. Neither suggests a body-contacting base with plural cells.

The combination of Ostrow, Alon and Russek would not have made the invention as claimed obvious.

As pointed out earlier, Alon do not describe, teach or suggest the claimed features. Alon has separate pads for electro neuromuscular stimulation. Ostrow uses electromagnets in pads for neuromuscular stimulation. Therefore, any further combination will also lead away from the present claims.

There is no showing as to how the Alon separate pads can be adapted into the Ostrow neuromuscular stimulation pads.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 87 is patentable over Ostrow in view of Alon.

Claim 87 provides an apparatus for treating wounded tissues, comprising a rigid or flexible base, plural individually controlled energy applicator cells mounts on the base, an energy generator connected to the cells, and controls connected between the energy generator and the

cells for controlling energy applied to the wounded tissues by the energy applicator cells for healing the wounded tissues. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Ostrow and Alon would not have made the invention obvious. Ostrow uses electromagnets in stimulator pads for neuromuscular stimulation. Neither Ostrow nor Alon suggests healing. Neither suggests a body-contacting base with plural cells.

The combination of Ostrow, Alon and Russek would not have made the invention as claimed obvious.

As pointed out earlier, Alon do not describe, teach or suggest the claimed features. Alon has separate pads for electro neuromuscular stimulation. Ostrow uses electromagnets in pads for neuromuscular stimulation. Therefore, any further combination will also lead away from the present claims.

There is no showing as to how the Alon separate pads can be adapted into the Ostrow neuromuscular stimulation pads.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 88 is patentable over Ostrow in view of Alon.

Claim 88 adds to claim 87 that the energy generator comprises plural energy generators connected to the cells. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 89 is patentable over Ostrow in view of Alon.

Claim 89 adds to claim 87 that the energy generator supplies currents to the cells for applying controlled field intensities from the energy applicator cells. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 90 is patentable over Ostrow in view of Alon.

Claim 90 adds to claim 87 that the controls independently control strength of field from each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 91 is patentable over Ostrow in view of Alon.

Claim 91 adds to claim 87 that the controls independently control frequency of each application cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 92 is patentable over Ostrow in view of Alon.

Claim 92 adds to claim 87 that the controls independently control strength of field and frequency of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 93 is patentable over Ostrow in view of Alon.

Claim 93 adds to claim 87 that the controls independently control pulse width output of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 94 is patentable over Ostrow in view of Alon.

Claim 94 adds to claim 87 that the controls independently control pulse shape of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 95 is patentable over Ostrow in view of Alon.

Claim 95 adds to claim 87 that the controls independently control pulse shape and pulse width of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 96 is patentable over Ostrow in view of Alon.

Claim 96 adds to claim 87 that the controls independently control frequency modulation of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 97 is patentable over Ostrow in view of Alon.

Claim 97 adds to claim 87 that the controls independently control amplitude modulation of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 98 is patentable over Ostrow in view of Alon.

Claim 98 adds to claim 87 that the controls independently control amplitude and frequency modulation of each applicator cell. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 99 is patentable over Ostrow in view of Alon.

Claim 99 adds to claim 87 that the controls independently control direct application of current by the applicator cells to the wounded tissues. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 100 is patentable over Ostrow in view of Alon.

Claim 100 adds to claim 87 that the controls independently control direct application of voltage by the applicator cells to the wounded tissues. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 101 is patentable over Ostrow in view of Alon.

Claim 101 adds to claim 87 that the controls independently control direct application of current and voltage by the applicator cells to the wounded tissues. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 102 is patentable over Ostrow in view of Alon.

Claim 102 provides an apparatus for applying in proximity to injured body tissues and healing the injured body tissues, comprising a carrier for mounting on the body in proximity to the injured tissues to be healed, energy application cells mounted on the carrier and arranged in arrays, a power source connected to the cells for powering the cells, and controls connected between the power source and the cells for controlling the providing of power from the power source to the cells for application of energy from the cells. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Ostrow and Alon would not have made the invention obvious. Ostrow uses electromagnets in stimulator pads for neuromuscular stimulation. Neither Ostrow nor Alon suggests healing. Neither suggests a body-contacting base with plural cells.

The combination of Ostrow, Alon and Russek would not have made the invention as claimed obvious.

As pointed out earlier, Alon do not describe, teach or suggest the claimed features. Alon has separate pads for electro neuromuscular stimulation. Ostrow uses electromagnets in pads for neuromuscular stimulation. Therefore, any further combination will also lead away from the present claims.

There is no showing as to how the Alon separate pads can be adapted into the Ostrow neuromuscular stimulation pads.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 103 is patentable over Ostrow in view of Alon.

Claim 103 adds to claim 102 that the cells are arranged in several arrays, and wherein the controls provide power concurrently or individually to the cells in the arrays. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claim 104 is patentable over Ostrow in view of Alon.

Claim 104 adds to claim 102 that the controls are connected severally to the cells for the providing of power to the cells concurrently or individually. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings.

Nothing in the references teaches, suggests or motivates one of ordinary skill in the art to combine the references in the manner proposed by the Examiner.

Claims 5 and 6 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146), and further in view of Russek (4,381,012).

Claim 5 is patentable over Ostrow and Alon, further in view of Russek.

As pointed out earlier, Ostrow and Alon do not describe, teach or suggest the claimed features. Therefore, any further combination will also lead away from the present claims.

Ostrow and Alon would not have made the invention obvious. Ostrow uses electromagnets in stimulator pads for neuromuscular stimulation. Neither Ostrow nor Alon suggests healing. Neither suggests a body-contacting base with plural cells.

The combination of Ostrow, Alon and Russek would not have made the invention as claimed obvious.

Ostrow uses electromagnets in pads for neuromuscular stimulation. Alon has separate pads for electro neuromuscular stimulation. Russek has electrodes touching the body and plugs in electrodes.

None of those references suggests a power source mounted on or connected to a base as claimed.

Ostrow, Alon and Russek would not have made obvious the subject matter of claims 5 and 6.

Ostrow uses electromagnets in pads for neuromuscular stimulation. Alon has separate pads for electro neuromuscular stimulation. Russek has electrodes touching the body and plugs in electrodes.

None of the references has remote controls (claim 16). None has a field generator and interference-preventing shielding (claim 17). None has an off-on switch connected to the cables

of claim 17. None of the prior art cables are signal-carrying cables. None of the references shows or suggests the particular structure of the independent claim and the dependent claims.

None of the cited references provide for controlled amplitude and frequency distribution or for combined signal delivery and treatment. They always use one or another approach that does not provide basis for optimization of the signal delivery and optimization of the treatment, combination of signal delivery and signal distribution over the wound area. For instance, bedsores vary in size, shape and depth in healthy tissue, depending on the bedsore "age", the age of the patient, and the place on the body that the wound exists. Different wounds require different approaches, field strength distribution over the wound area and/or frequency modulation. Some might require high frequency EM radiation (~27 MHz is a very good frequency range), some will require combination between EM and a current stimulation, some might require simultaneous EM, current flow and magnetic treatment within a desired type, signal strength and frequency.

No patent referenced here or during our Patent Office search describes energy distribution over the wound area.

No patent referenced here or during our search covers multiple field treatment of a single wound, nor provides for flexible amplitude, frequency and current density distribution during a single wound treatment.

Obviousness is tested by what the combined teachings of the references would have suggested to those of ordinary skill in the art. It cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so. In re Fine, 5 USPQ2d 1596, 1599 (CAFC, 1988).

Claim 5 adds to claim 4 that the power source is mounted on the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 6 is patentable over Ostrow and Alon, further in view of Russek.

Claim 6 adds to claim 4 that the power source is connected to the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claims 16-25 and 105 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146), and further in view of Russek (4,381,012).

Claim 16 is patentable over Ostrow and Alon, further in view of Russek.

As pointed out earlier, Ostrow and Alon do not describe, teach or suggest the claimed features. Therefore, any further combination will also lead away from the present claims.

Ostrow and Alon would not have made the invention obvious. Ostrow uses electromagnets in stimulator pads for neuromuscular stimulation. Neither Ostrow nor Alon suggests healing. Neither suggests a body-contacting base with plural cells.

The combination of Ostrow, Alon and Russek would not have made the invention as claimed obvious.

Ostrow uses electromagnets in pads for neuromuscular stimulation. Alon has separate pads for electro neuromuscular stimulation. Russek has electrodes touching the body and plugs in electrodes.

None of those references suggests a power source mounted on or connected to a base as claimed.

Ostrow, Alon and Russek would not have made obvious the subject matter of claims 16-25 and 105.

Ostrow uses electromagnets in pads for neuromuscular stimulation. Alon has separate pads for electro neuromuscular stimulation. Russek has electrodes touching the body and plugs in electrodes.

None of the references has remote controls (claim 16). None has a field generator and interference-preventing shielding (claim 17). None has an off-on switch connected to the cables of claim 17. None of the prior art cables are signal-carrying cables. None of the references shows or suggests the particular structure of the independent claim and the dependent claims.

None of the cited references provide for controlled amplitude and frequency distribution or for combined signal delivery and treatment. They always use one or another approach that does not provide basis for optimization of the signal delivery and optimization of the treatment, combination of signal delivery and signal distribution over the wound area. For instance, bedsores vary in size, shape and depth in healthy tissue, depending on the bedsore "age", the age of the patient, and the place on the body that the wound exists. Different wounds require different approaches, field strength distribution over the wound area and/or frequency modulation. Some might require high frequency EM radiation (~27 MHz is a very good frequency range), some will require combination between EM and a current stimulation, some

might require simultaneous EM, current flow and magnetic treatment within a desired type. signal strength and frequency.

No patent referenced here or during our Patent Office search describes energy distribution over the wound area.

No patent referenced here or during our search covers multiple field treatment of a single wound, nor provides for flexible amplitude, frequency and current density distribution during a single wound treatment.

Obviousness is tested by what the combined teachings of the references would have suggested to those of ordinary skill in the art. It cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so. In re Fine, 5 USPQ2d 1596, 1599 (CAFC, 1988).

Claim 16 adds to claim 1 remote controls for controlling the cells remotely. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 17 is patentable over Ostrow and Alon, further in view of Russek.

Claim 17 adds to claim 16 that each cell further comprises cables, a field generator coil for generating energy, patient insulation interposed between a patient and the coil, a coil enclosure, and shielding for preventing interference. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 18 is patentable over Ostrow and Alon, further in view of Russek.

Claim 18 adds to claim 17 an on/off switch connected to the cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 19 is patentable over Ostrow and Alon, further in view of Russek.

Claim 19 adds to claim 17 that the cables are power cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 20 is patentable over Ostrow and Alon, further in view of Russek.

Claim 20 adds to claim 17 that the cables are signal cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 21 is patentable over Ostrow and Alon, further in view of Russek.

Claim 21 adds to claim 17 that the energy is selected from a group of energies consisting of electro-magnetic radiations, radio frequencies, magnetic fields, and combinations thereof. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 22 is patentable over Ostrow and Alon, further in view of Russek.

Claim 22 adds to claim 16 that each cell further comprises cables connected to electrodes for producing current-voltage signals, patient insulation and a cable enclosure. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 23 is patentable over Ostrow and Alon, further in view of Russek.

Claim 23 adds to claim 22 that the cables are power cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 24 is patentable over Ostrow and Alon, further in view of Russek.

Claim 24 adds to claim 22 that the cables are signal cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 25 is patentable over Ostrow and Alon, further in view of Russek.

Claim 25 adds to claim 22 an on/off switch connected to the cables. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 105 is patentable over Ostrow and Alon, further in view of Russek.

Claim 105 adds to claim 102 a remote control for operating the controls for the controlling of the providing of power to the cells. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with Russek.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claims 40 and 41 are patentable under 35 U.S.C. 103(a) over Ostrow (5,344,384) in view of Alon (4,690,146), and further in view of McLeod (5,518,496).

Claim 40 is patentable over Ostrow and Alon, further in view of McLeod.

Claims 40 and 41 distinguish the invention from Ostrow, Alon and McLeod.

Ostrow uses electromagnets in pads for neuromuscular stimulation.

Alon has separate pads for electro neuromuscular stimulation.

McLeod describes two coils that can be bent to conform to the anatomical contour of a human. McLeod does not have a base for placing on a body and plural cells arranged on the base, and does not have plural sensors incorporated into the base as described in claim 40. McLeod does not have sensors that sense parameters indicative of the wounds to be treated as described in claim 41.

McLeod simply has a magnetometer 146 that senses his own magnetic field.

None of the cited references provide for controlled amplitude and frequency distribution or for combined signal delivery and treatment. They always use one or another approach that does not provide basis for optimization of the signal delivery and optimization of the treatment, combination of signal delivery and signal distribution over the wound area. For instance, bedsores vary in size, shape and depth in healthy tissue, depending on the bedsore "age", the age of the patient, and the place on the body that the wound exists. Different wounds require different approaches, field strength distribution over the wound area and/or frequency modulation. Some might require high frequency EM radiation (~27 MHz is a very good frequency range), some will require combination between EM and a current stimulation, some might require simultaneous EM, current flow and magnetic treatment within a desired type, signal strength and frequency.

No patent referenced here or during our Patent Office search describes energy distribution over the wound area.

No patent referenced here or during our search covers multiple field treatment of a single wound, nor provides for flexible amplitude, frequency and current density distribution during a single wound treatment.

Obviousness is tested by what the combined teachings of the references would have suggested to those of ordinary skill in the art. It cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so. In re Fine, 5 USPQ2d 1596, 1599 (CAFC, 1988).

Claim 40 adds to claim 1 sensors incorporated into the base. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with McLeod.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

Claim 41 is patentable over Ostrow and Alon, further in view of McLeod.

Claim 41 adds to claim 40 that the sensors measure different parameters indicative of the wounds to be treated. Neither Ostrow nor Alon teaches this and there is no motivation to combine these teachings with McLeod.

Nothing in the references, either singly or in combination, teaches or suggests the claimed features. Therefore, the references cannot anticipate nor render obvious the present invention as claimed.

LEVEL OF ORDINARY SKILL IN THE ART

A person having ordinary skill in the art is an artisan being taught the reference teachings.

SUMMARY

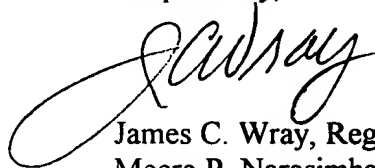
Each of the present claims is patentable under 35 U.S.C. 102 over the prior art of record.

When considering the present invention as a whole and the prior art to which the invention pertains as a whole, when considering the differences between the present invention and the prior art, and when considering the level of ordinary skill in the art to which the invention pertains, it is clear that the invention would not have been obvious under 35 U.S.C. 103 to a person having ordinary skill in the art at the time the invention was made.

CONCLUSION

Reversal of the Examiner and allowance of all the claims are respectfully requested.

Respectfully,



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APPENDIX

1. A healing cell apparatus comprising a base for placing on a body, a plurality of cells arranged on the base, a power supply individually communicating independently with each of the cells and controls connected to the cells separately controlling application of power to each of the cells individually.
2. The apparatus of claim 1, wherein the base is thin, flexible and portable.
3. The apparatus of claim 1, wherein the cells generate energy selected from the group of energies consisting of radio frequencies, electro-magnetic radiations, magnetic fields, current-voltage signals, and combinations thereof.
4. The apparatus of claim 1, wherein the power supply is a power source selected from the group consisting of batteries, power outlet, converter and oscillator, transformer, and combinations thereof.
5. The apparatus of claim 4, wherein the power source is mounted on the base.
6. The apparatus of claim 4, wherein the power source is connected to the base.
7. The apparatus of claim 1, wherein the controls further comprise self-contained controls in each cell.
8. The apparatus of claim 7, further comprising batteries connected to the self-contained controls.
9. The apparatus of claim 8, wherein the self-contained controls comprise control circuits connected to the batteries, cables connected to the control circuits, a field generator coil for generating energy connected to cables, a shielding separating the control circuits from the coil for shielding the control and any adjacent cells from interference, and a coil enclosure and patient insulation interposed between a patient and the coil.
10. The apparatus of claim 9, wherein the control circuits are power control circuits.
11. The apparatus of claim 9, wherein the control circuits are signal control circuits.

12. The apparatus of claim 9, wherein the cables are signal carrying cables.
13. The apparatus of claim 9, wherein the cables are power cables.
14. The apparatus of claim 9, wherein the energy is selected from a group of energies consisting of electro-magnetic radiations, radio frequencies, magnetic fields, and combinations thereof.
15. The apparatus of claim 9, wherein the battery, the control circuits, the shielding, the coil and the cables are surrounded by a housing.
16. The apparatus of claim 1, further comprising remote controls connected to the controls for controlling the cells remotely.
17. The apparatus of claim 16, wherein each cell further comprises cables, a field generator coil for generating energy, patient insulation interposed between a patient and the coil, a coil enclosure, and shielding for preventing interference.
18. The apparatus of claim 17, further comprising an on/off switch connected to the cables.
19. The apparatus of claim 17, wherein the cables are power cables.
20. The apparatus of claim 17, wherein the cables are signal carrying cables.
21. The apparatus of claim 17, wherein the energy is selected from a group of energies consisting of electro-magnetic radiations, radio frequencies, magnetic fields, and combinations thereof.
22. The apparatus of claim 16, wherein each cell further comprises cables connected to electrodes for producing current-voltage signals, patient insulation and a cable enclosure.
23. The apparatus of claim 22, wherein the cables are power cables.
24. The apparatus of claim 22, wherein the cables are signal carrying cables.
25. The apparatus of claim 22, further comprising an on/off switch connected to the cables.

26. The apparatus of claim 1, wherein the cells have an orthogonal arrangement on the base.
27. The apparatus of claim 1, further comprising control conduits mounted on the base.
28. The apparatus of claim 27, wherein the control conduits are connected to a power and signal generator and a generator control.
29. The apparatus of claim 27, wherein the power and signal generator and generator control are portable.
30. The apparatus of claim 27, wherein the control conduits are power control conduits.
29. The apparatus of claim 27, wherein the power and signal generator and control are portable.
31. The apparatus of claim 27, wherein the control conduits are signal carrying control conduits.
32. The apparatus of claim 1, further comprising a control panel connected to the controls and mounted on one end of the base.
33. The apparatus of claim 1, further comprising control panels connected to the controls and mounted on opposite ends of the base.
34. The apparatus of claim 1, the power supply further comprising a battery power supply mounted on one end of the base.
35. The apparatus of claim 1, the power supply further comprising battery power supplies mounted on opposite ends of the base.
36. The apparatus of claim 1, the power supply further comprising a signal generator and control mounted on one end of the base.
37. The apparatus of claim 36, wherein the signal generator and control are mounted transverse from another signal generator and control on an opposite end of the base.

38. The apparatus of claim 3 wherein frequency and field strength of the energies are variable with increasing frequencies in proximity to the wounds to be treated.

39. The apparatus of claim 1, wherein the base encircles a limb on the body.

40. The apparatus of claim 1, further comprising sensors incorporated into the base.

41. The apparatus of claim 40, wherein the sensors measure different parameters indicative of the wounds to be treated.

84. The healing cell apparatus of claim 1, wherein the cells concurrently or sequentially generate radio frequencies, electromagnetic radiations, magnetic fields, current-voltage signals, and combinations thereof.

85. A method for speeding healing process of wounded soft tissues, bone tissues, cancerous tissues, nerve pathway tissues and other body tissues, comprising applying a portable base to a body, the base having a plurality of cells applied with the cells near or on the wounded tissues, generating energy, the energy further comprising electromagnetic radiations, radio frequencies, magnetic fields, current-voltage signals or combinations thereof with field generators powering and controlling each cell individually via self-contained or remote controls, and varying type, frequency, pulse characteristics, repetition rate or signal density of the generated energy according to size and type of the wounded tissues being healed and according to the proximity of each cell to the wounded tissues.

87. Apparatus for treating wounded tissues, comprising a rigid or flexible base, plural individually controlled energy applicator cells mounts on the base, an energy generator connected to the cells, and controls connected between the energy generator and the cells for controlling energy applied to the wounded tissues by the energy applicator cells for healing the wounded tissues.

88. The apparatus of claim 87, wherein the energy generator comprises plural energy generators connected to the cells.

89. The apparatus of claim 87, wherein the energy generator supplies currents to the cells for applying controlled field intensities from the energy applicator cells.

90. The apparatus of claim 87, wherein the controls independently control strength of field from each applicator cell.

91. The apparatus of claim 87, wherein the controls independently control frequency of each application cell.

92. The apparatus of claim 87, wherein the controls independently control strength of field and frequency of each applicator cell.

93. The apparatus of claim 87, wherein the controls independently control pulse width output of each applicator cell.

94. The apparatus of claim 87, wherein the controls independently control pulse shape of each applicator cell.

95. The apparatus of claim 87, wherein the controls independently control pulse shape and pulse width of each applicator cell.

96. The apparatus of claim 87, wherein the controls independently control frequency modulation of each applicator cell.

97. The apparatus of claim 87, wherein the controls independently control amplitude modulation of each applicator cell.

98. The apparatus of claim 87, wherein the controls independently control amplitude and frequency modulation of each applicator cell.

99. The apparatus of claim 87, wherein the controls independently control direct application of current by the applicator cells to the wounded tissues.

100. The apparatus of claim 87, wherein the controls independently control direct application of voltage by the applicator cells to the wounded tissues.

101. The apparatus of claim 87, wherein the controls independently control direct application of current and voltage by the applicator cells to the wounded tissues.

102. Apparatus for applying in proximity to injured body tissues and healing the injured body tissues, comprising a carrier for mounting on the body in proximity to the injured tissues to be healed, energy application cells mounted on the carrier and arranged in arrays, a power source connected to the cells for powering the cells, and controls connected between the power source and the cells for controlling the providing of power from the power source to the cells for application of energy from the cells.

103. The apparatus of claim 102, wherein the cells are arranged in several arrays, and wherein the controls provide power concurrently or individually to the cells in the arrays.

104. The apparatus of claim 102, wherein the controls are connected severally to the cells for the providing of power to the cells concurrently or individually.

105. The apparatus of claim 102, further comprising a remote control for operating the controls for the controlling of the providing of power to the cells.